AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A ~~parallel~~ router interface, comprising:

a plurality of parallel channels, wherein each of said parallel channels is adapted to ~~can~~ transmit a block of bits ~~at a time~~, and wherein said blocks form at least a portion of a packet;

a parallel-to-serial converter ~~that converts~~ converting each of said blocks into a serial stream of data and ~~provides~~ providing said stream to a serial interface; and

a plurality of framers coupled to said serial interface, wherein each of said framers is associated with one of said plurality of parallel channels.

2. (Original) The interface of claim 1 wherein each of said blocks is at least a byte wide, and wherein each of said parallel channels has at least a byte-wide interface for grabbing said block of data.

3. (Currently Amended) The interface of claim ~~1~~2, ~~for transmitting at least 80 Gbps/sec~~ wherein each said at least a byte-wide interface is exactly a byte wide and said plurality of parallel channels comprises eight byte-wide channels ~~for~~ transmitting data at a rate of at least 10 Gbps each.

4. (Original) The interface of claim 1 wherein each of said blocks is a half byte wide, and wherein each of said parallel channels has at least a half byte wide interface for grabbing said block of data.

5. (Currently Amended) The interface of claim ~~1~~4, ~~for transmitting at least 80 Gbps~~ wherein each said at least a half byte-wide interface is exactly a half byte wide and said plurality of parallel channels comprises thirty-two, half byte-wide channels for transmitting data at a rate of at least 2.4 Gbps each.

6. (Currently Amended) The interface of claim 1 wherein each of said plurality of framers add a synchronization word ~~at a same time that~~ serves as a temporal marker.

7. (Original) The interface of claim 1 wherein each of said framers is a combination of hardware and software.

8. (Currently Amended) The interface of claim 1 wherein each of said framers converts communications packets from at least one format selected from a group ~~selected from~~ consisting of TCP, SNA, IPX, into frames that can be sent over a frame relay network.

9. (Original) The interface of claim 1 wherein each of said framers provides time synchronization between at least two of said channels by adding a synchronization word.

10. (Original) The interface of claim 9 wherein each of said framers provides at least one of an error detection code and a forward error correction.

11. (Original) The interface of claim 9 wherein each of said framers scrambles packet data.

Claims 12-15 (Canceled)

16. (New) A router interface, comprising:

a plurality of framers, wherein each one of said plurality of framers receives an individual serial electrical signal;

a plurality of buffers, wherein each one of said plurality of buffer receives and buffers data from a corresponding to one of the plurality of framers;

a serial to parallel converter receiving data output from the plurality of buffers, and combining said data into a plurality of parallel data blocks.

17. (New) The router interface of claim 16, wherein each of said parallel data blocks is at least a byte wide, and wherein the plurality of parallel data blocks are output via a plurality of parallel channels.

18. (New) The interface of claim 17, wherein each of said parallel data blocks is exactly a byte wide and said plurality of parallel channels comprises eight byte-wide channels transmitting data at a rate of at least 10 Gbps each.

19. (New) The interface of claim 16, wherein each one of said parallel data blocks is a half byte wide, and wherein the plurality of parallel data blocks are output via a plurality of parallel channels.

20. (New) The interface of claim 19, wherein each of said parallel data blocks is exactly a half byte wide and said plurality of parallel channels comprises thirty-two, half byte-wide channels transmitting data at a rate of at least 2.4 Gbps each.

21. (New) The interface of claim 16, wherein data is released from at least one of the plurality of buffers to the serial to parallel converter in response to a time stamp.

22. (New) A data transmission system, comprising:

a first router having a first interface comprising;

a plurality of parallel channels, wherein each of said parallel channels is adapted to transmit a block of bits, and wherein said blocks form at least a portion of a packet;

a parallel-to-serial converter converting each of said blocks into a serial stream of data and providing said stream to a serial interface; and

a plurality of framers coupled to said serial interface, wherein each of said framers is associated with one of said plurality of parallel channels;

a second router having a second interface comprising;

a plurality of framers, wherein each one of said plurality of framers receives an individual serial electrical signal;

a plurality of buffers, wherein each one of said plurality of buffer receives and buffers data from a corresponding to one of the plurality of framers; and,

a serial to parallel converter receiving data output from the plurality of buffers, and combining said data into a plurality of parallel data blocks.

23. (New) The data transmission system of claim 21, further comprising:

a WDM transport system between first and second routers.